

Amendments to the CLAIMS:

Without prejudice, this listing of the claims replaces all prior versions and listings of the claims in the present application:

LISTING OF CLAIMS:

1-12. (Canceled).

13. (Currently Amended) An image filling method comprising:

extracting color information of each pixel of a line drawing to be filled, wherein said line drawing to be filled includes a colored line which is a boundary line dividing said line drawing to be filled into regions, a color of the boundary line specifying a color used for filling the boundary line;

extracting boundary line information representing whether said each pixel is on the boundary line or not by using said color information;

filling said line drawing except the boundary line by using said boundary line information; and

filling said colored line by using said boundary line information, said filling of said colored line including:

when a pointing device is in a first state and boundary line information of coordinates at the pointing device represents a region other than the boundary line, obtaining color information of said coordinates at the pointing device; and

when the pointing device is in a second state and boundary line information of coordinates at the pointing device represents the boundary line, providing said obtained color information to said coordinates at the pointing device;

wherein when the pointing device is moved from a region to another region across the colored line, a color of the colored line changes to a color of the region where the pointing device is initially located.

14. (Canceled).

15. (Previously Presented) The image filling method as claimed in claim 13, said extracting of boundary line information including:

extracting color information of each pixel by scanning said line drawing to be filled; comparing R, G, B values of said color information with predetermined R, G, B thresholds; and

setting codes according to the kind of said colored line and regions other than said boundary line.

16. (Canceled).

17. (Previously Presented) The image filling method as claimed in claim 13, said filling of said line drawing including:

providing specified color information to a region which includes coordinates when said coordinates are within said line drawing to be filled and said boundary line information of said coordinates represents a region other than the boundary line.

18-36. (Canceled).

37. (Currently Amended) An image filling apparatus comprising:

a storage device for storing line drawings which includes a colored line which is a boundary line dividing said line drawing into regions, a color of the boundary line specifying a color used for filling the boundary line;

a part for reading a line drawing to be filled which includes said colored line from said storage device;

a part for extracting color information of each pixel of said line drawing to be filled,

a part for extracting boundary line information representing whether said pixel is on the boundary line or not by using said color information;

a part for filling said line drawing except the boundary line by using said boundary line information; and

a part for filling said colored line by using said boundary line information, said part for filling said colored line including:

a part for obtaining color information of coordinates at a pointing device when the pointing device is in a first state and a boundary line information of said coordinates at the pointing device represents a region other than the boundary line, and

a part for providing said obtained color information to coordinates at the pointing device when the pointing device is in a second state and boundary line information of said coordinates at the pointing device represents the boundary line;

wherein when the pointing device is moved from a region to another region across the colored line, a color of the colored line changes to a color of the region where the pointing device is initially located.

38. (Canceled).

39. (Original) The image filling apparatus as claimed in claim 37, said part for extracting boundary line information comprising:

a part for extracting color information of each pixel by scanning said line drawing to be filled;

a part for comparing R, G, B values of said color information with predetermined R, G, B thresholds; and

a part for setting codes according to the kind of said colored line and regions other than said boundary line.

40. (Canceled).

41. (Original) The image filling apparatus as claimed in claim 37, said part of filling said line drawing comprising:

a part for providing specified color information to a region which includes coordinates when said coordinates are within said line drawing to be filled and said boundary line information of said coordinates represents a region other than the boundary line.

42-58. (Canceled).

59. (Currently Amended) A computer readable medium storing program code for causing a computer to color images, said computer readable medium comprising:

program code for extracting color information of each pixel of a line drawing to be filled, wherein said line drawing to be filled includes a colored line which is a boundary line dividing said line drawing to be filled into regions, a color of the boundary line specifying a color used for filling the boundary line;

program code for extracting boundary line information representing whether said each pixel is on the boundary line or not by using said color information;

program code for filling said line drawing except the boundary line by using said boundary line information; and

program code for filling said colored line by using said boundary line information, said program code for filling said colored line including:

program code for obtaining color information of coordinates at a pointing device when the pointing device is in a first state and boundary line information of said coordinates at the pointing device represents a region other than the boundary line; and

program code for providing said obtained color information to coordinates at the pointing device when the pointing device is in a second state and boundary line information of said coordinates at the pointing device represents the boundary line;

wherein when the pointing device is moved from a region to another region across the colored line, a color of the colored line changes to a color of the region where the pointing device is initially located.

60. (Canceled).

61. (Previously Presented) The computer readable medium as claimed in claim 59, said program code for extracting boundary line information comprising:

program code for extracting color information of each pixel by scanning said line drawing to be filled;

program code for comparing R, G, B values of said color information with predetermined R, G, B thresholds; and

program code for setting codes according to the kind of said colored line and regions other than said boundary line.

62. (Canceled).

63. (Previously Presented) The computer readable medium as claimed in claim 59, said program code for filling said line drawing comprising:

program code for providing specified color information to a region which includes coordinates when said coordinates are within said line drawing to be filled and said boundary line information of said coordinates represents a region other than the boundary line.

64-77. (Canceled).

78. (Canceled).

79. (Currently Amended) The image filling method as claimed in claim [[78]] 13, wherein when the user pushes a pointing device button at a brighter color region of regions divided by the colored line and moves the pointing device on a part of the colored line where the user wants to change the color, the color of the part where the pointing device passed through can be changed to the brighter color.

80. (Previously Presented) The image filling method as claimed in claim 79, wherein when there are different color regions divided by colored lines, a color of only a part of the colored line can be changed in the same way.

81. (Currently Amended) ~~The image filling method as claimed in claim 79,~~ An image filling method comprising:

extracting color information of each pixel of a line drawing to be filled, wherein said line drawing to be filled includes a colored line which is a boundary line dividing said line drawing to be filled into regions, a color of the boundary line specifying a color used for filling the boundary line;

extracting boundary line information representing whether said each pixel is on the boundary line or not by using said color information;

filling said line drawing except the boundary line by using said boundary line information; and

filling said colored line by using said boundary line information, said filling of said colored line including:

when a pointing device is in a first state and boundary line information of coordinates at the pointing device represents a region other than the boundary line, obtaining color information of said coordinates at the pointing device; and

when the pointing device is in a second state and boundary line information of coordinates at the pointing device represents the boundary line, providing said obtained color information to said coordinates at the pointing device;

wherein when the pointing device is moved from a region to another region across the colored line, a color of the colored line changes to a color of the region where the pointing device is initially located;

wherein when the user pushes a pointing device button at a brighter color region of regions divided by the colored line and moves the pointing device on a part of the colored line where the user wants to change the color, the color of the part where the pointing device passed through can be changed to the brighter color; and

wherein the colored line is filled with the color used for filling the region enclosed by the color line at the same time when the region is filled.

82. (Previously Presented) The image filling method as claimed in claim 81, wherein the closed region enclosed by the colored line and the colored line are filled at the same time when the inside of the closed region is filled.

83. (Previously Presented) The image filling method as claimed in claim 82, wherein the colored line is filled with the color which is used first for filling each region enclosed by the colored line.

84. (Canceled).

85. (Currently Amended) The image filling apparatus as claimed in claim ~~[[84]]~~ 37, wherein when the user pushes a pointing device button at a brighter color region of regions divided by the colored line and moves the pointing device on a part of the colored line where the user wants to change the color, the color of the part where the pointing device passed through can be changed to the brighter color.

86. (Previously Presented) The image filling apparatus as claimed in claim 85, wherein when there are different color regions divided by colored lines, a color of only a part of the colored line can be changed in the same way.

87. (Currently Amended) ~~The image filling apparatus as claimed in claim 85,~~ An image filling apparatus comprising:

a storage device for storing line drawings which includes a colored line which is a boundary line dividing said line drawing into regions, a color of the boundary line specifying a color used for filling the boundary line;

a part for reading a line drawing to be filled which includes said colored line from said storage device;

a part for extracting color information of each pixel of said line drawing to be filled,
a part for extracting boundary line information representing whether said pixel is on the boundary line or not by using said color information;

a part for filling said line drawing except the boundary line by using said boundary line information; and

a part for filling said colored line by using said boundary line information, said part for filling said colored line including:

a part for obtaining color information of coordinates at a pointing device when the pointing device is in a first state and a boundary line information of said coordinates at the pointing device represents a region other than the boundary line,
and

a part for providing said obtained color information to coordinates at the pointing device when the pointing device is in a second state and boundary line information of said coordinates at the pointing device represents the boundary line;

wherein when the pointing device is moved from a region to another region across the colored line, a color of the colored line changes to a color of the region where the pointing device is initially located;

wherein when the user pushes a pointing device button at a brighter color region of regions divided by the colored line and moves the pointing device on a part of the colored line where the user wants to change the color, the color of the part where the pointing device passed through can be changed to the brighter color; and

wherein the colored line is filled with the color used for filling the region enclosed by the color line at the same time when the region is filled.

88. (Previously Presented) The image filling apparatus as claimed in claim 87, wherein the closed region enclosed by the colored line and the colored line are filled at the same time when the inside of the closed region is filled.

89. (Previously Presented) The image filling apparatus as claimed in claim 88, wherein the colored line is filled with the color which is used first for filling each region enclosed by the colored line.

90. (Canceled).

91. (Currently Amended) The computer readable medium as claimed in claim [[90]] 59, wherein when the user pushes a pointing device button at a brighter color region of regions divided by the colored line and moves the pointing device on a part of the colored line where the user wants to change the color, the color of the part where the pointing device passed through can be changed to the brighter color.

92. (Previously Presented) The computer readable medium as claimed in claim 91, wherein when there are different color regions divided by colored lines, a color of only a part of the colored line can be changed in the same way.

93. (Currently Amended) ~~The computer readable medium as claimed in claim 91, A~~
computer readable medium storing program code for causing a computer to color images,
said computer readable medium comprising:

program code for extracting color information of each pixel of a line drawing to be filled, wherein said line drawing to be filled includes a colored line which is a boundary line dividing said line drawing to be filled into regions, a color of the boundary line specifying a color used for filling the boundary line;

program code for extracting boundary line information representing whether said each pixel is on the boundary line or not by using said color information;

program code for filling said line drawing except the boundary line by using said boundary line information; and

program code for filling said colored line by using said boundary line information,
said program code for filling said colored line including:

program code for obtaining color information of coordinates at a pointing device when the pointing device is in a first state and boundary line information of said coordinates at the pointing device represents a region other than the boundary line; and

program code for providing said obtained color information to coordinates at the pointing device when the pointing device is in a second state and boundary line information of said coordinates at the pointing device represents the boundary line;

wherein when the pointing device is moved from a region to another region across the colored line, a color of the colored line changes to a color of the region where the pointing device is initially located;

wherein when the user pushes a pointing device button at a brighter color region of regions divided by the colored line and moves the pointing device on a part of the colored line where the user wants to change the color, the color of the part where the pointing device passed through can be changed to the brighter color; and

wherein the colored line is filled with the color used for filling the region enclosed by the color line at the same time when the region is filled.

94. (Previously Presented) The computer readable medium as claimed in claim 93, wherein the closed region enclosed by the colored line and the colored line are filled at the same time when the inside of the closed region is filled.

95. (Previously Presented) The computer readable medium as claimed in claim 94, wherein the colored line is filled with the color which is used first for filling each region enclosed by the colored line.